

REMARKS

Applicants appreciate the reminder concerning submission of a certified copy of the priority document. A certified copy is being submitted under separate cover.

Claim 12 has been amended to clarify its meaning. As described in the specification, it is the primary amide in its Schiff base form that is subjected to treatment by base. It is believed that the proposed wording of claim 12 makes this unmistakable. Claim 22 has been amended to correct the antecedent basis with respect to amended claim 12. No new matter has been added and entry of the amendment is respectfully requested.

All of the rejections were made over the art.

Claims 12-22 were rejected as anticipated by Hijiya, *et al.* (U.S. 5,679,857). This rejection is addressed by the clarifying amendment to claim 12. This amendment clarifies that it is the primary amide of the amino acid in its Schiff base form which is treated with strong base. Perhaps the words "derived from" were interpreted to include other derivatives, such as the secondary amides described in Hijiya. This was never the intent.

As the amended claim clarifies, Hijiya cannot anticipate the invention because it does not describe racemization of a primary amide. Thus, this basis for rejection may be withdrawn.

Claims 12-22 were also rejected over Hijiya, *et al.*, as obvious under 35 U.S.C. § 103. Perhaps this basis for rejection was grounded in an unintended interpretation of claim 12, as well. The Office sees the only difference between Hijiya and the present invention as the amounts of organic solvent and base. But that is not the case.

Hijiya, *et al.*, actually is directed to a different problem from that of the present invention. Although racemization will occur in the course of reactions conducted by Hijiya, the purpose is to convert one enantiomer into another. In order to effect this, an L-amino acid is reacted with an optically active amine so as to form a compound now a secondary amide with two chiral centers. Now, when the chiral center at the alpha amino group is racemized, two diastereomers are formed with different properties, which permits the desired diastereomer to precipitate or

crystallize out of the solvent. The disclosure of Hijiya simply does not address the problem of racemising the primary amides of the amino acids which are racemized in the present invention.

As will be apparent, the ability to remove the desired diastereomer from the reaction mixture, in the case of Hijiya, is helpful in promoting racemization of the α -amino chiral center. This type of stoichiometric pressure is not present in the racemization reactions set forth in the present application.

As noted in the specification on page 1, beginning at line 9, prior art racemization processes of the primary amides of amino acids proceed only slowly. The contribution of the invention is to use bases which are reactive with water in order to avoid this problem. This problem is, of course, not even alluded to in Hijiya, which is directed to an entirely different end.

Although Hijiya includes bases that are reactive with water among those which are appropriate for the process described therein, there is clearly no teaching that it is a requirement to use such bases as opposed to more ordinary forms such as potassium hydroxide, sodium hydroxide and so forth. The Hijiya document, as shown in column 4, lines 1-6, makes no distinction. Thus, one of ordinary skill would not be lead to focus exclusively on bases which are reactive with water based on the teaching of Hijiya.

Finally, it appears that whatever Hijiya is doing, it is proceeding in a different fashion from the process of the present invention. As noted by Hijiya, in column 4, beginning at line 6, the racemization reaction in Hijiya proceeds faster with a larger amount of base; the suggested amounts are 0.1-0.5 equivalents or more, based on the substrate. This is in contrast to the process of the present invention which, while overlapping in the range of possible concentration of base, indicates that the base may be applied only in a catalytic amount. It appears from the statement at lines 20-22 that anything larger than a catalytic amount is simply to replace base lost to contaminants.

In sum, the Hijiya document does not suggest the present invention because it (a) does not refer at all to racemization of primary amides of amino acids, (b) does not recognize the

necessity (as compared to the possibility) of using a base reactive with water, (c) appears to proceed by a different mechanism, and (d) is concerned with preparing an amino acid of the opposite chirality from the starting material as opposed to racemization *per se*. For these reasons, Hijiya is simply silent on the problems addressed by the present invention and fails to suggest a solution to them.

Accordingly, the rejections over Hijiya may be withdrawn.

CONCLUSION


Applicants believe all pending claims, claims 12-22 are in a position for allowance and passage of these claims to issue is respectfully requested.

In the unlikely event that the transmittal letter is separated from this document and the Patent Office determines that an extension and/or other relief is required, applicants petition for any required relief including extensions of time and authorize the Assistant Commissioner to charge the cost of such petitions and/or other fees due in connection with the filing of this document to Deposit Account No. 03-1952 referencing docket No. 246152014800.

Respectfully submitted,

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EXHIBIT A. - VERSION WITH MARKINGS TO SHOW CHANGES MADE

In the Claims:

12. (Amended) A process for racemising an enantiomer-enriched Schiff base [derived from] of a primary [amino acid] amide of an amino acid which process comprises contacting said enantiomer-enriched Schiff base with a strong base in an organic solvent, _____ wherein said strong base is chemically reactive with water.

22. (Amended) The process of claim 12 wherein said enantiomer-enriched Schiff base has been prepared from the primary [amino acid] amide of the amino acid in said organic solvent.